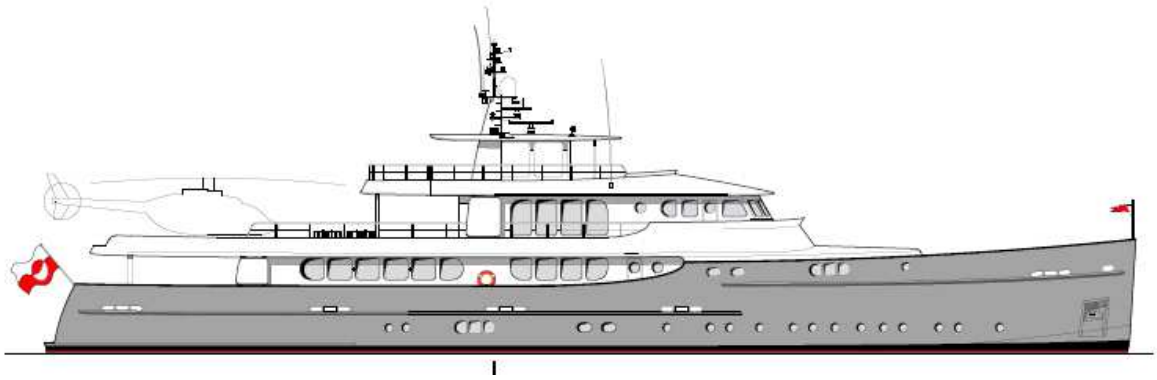
OCEA Commuter 155

Descriptive Specification



Main characteristics

- Length overall:	47.00 m
- Length at waterline:	46.50 m
- Beam overall:	8.50 m
- Draft:	2.15 m
- Displacement at full load:	280 t
- Max speed:	17.0 kts
- Cruising speed:	15.5 kts
- Fuel capacity:	40 000 lts
- Fresh water capacity:	6 000 lts
- Range at 10 knots:	4 500 nm
- Classification Society:	Bureau Veritas
- Class type:	I*Yacht/AI·Mach
- Certification:	MCA compliance

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INDEX

SECTION 1: ALUMINIUM HULL 4
1-1) General: 4
1-2) Compartments: 5
1-3) Tanks: 6
1-4) Docking / Access: 7
1-5) Anchoring / Mooring: 7
1-6) Arch and mast: 8
1-7) Engine room ventilation: 8
1-8) Engine room floor and protections: 8
1-9) Water intakes and discharge pipes: 8
1-10) Steering apparel: 9
1-11) Swim-platform: 9
1-12) Bowthruster: 9
1-13) Stabilisation system: 9
1-14) Hydraulic craneS: 9
1-15) Tenders stowage: 9
1-16) Stainless steel: 9
1-17) Covers: 9

SECTION 2: GENERAL ARRANGEMENT 10
2-1) General: 10
2-2) Thermal insulation: 10
2-3) Sound insulation: 10
2-4) Joinery work Standards: 11
2-5) Interior arrangements: 12
2-6) Exterior Teak decks: 19
2-7) Stairs and doors: 19
2-8) Windows and portholes: 20
2-9) Lighting - Power sockets: 21
2-10) HI FI / Video / Communication / Security: 21
2-11) Owner's decorative elements: 22

SECTION 3: VENTILATION / AIR CONDITIONING 23
3-1) Natural ventilation: 23
3-2) Mechanical ventilation: 23
3-3) Air conditioning: 23

SECTION 4: PAINT 25
4-1) General: 25
4-2) Hull: 25
4-3) Topsides/Superstructures: 25
4-4) Upper deck Rroofs: 25
4-5) Hull interior: 25
4-6) Grey/Black water tank: 25
4-7) Cathodic protection: 25
4-8) Sign writing: 25
4-9) Piping in the engine room: 25

SECTION 5: MOTORISATION 26
5-1) General: 26
5-2) Characteristics: 26
5-3) Fuel Consumption: 26
5-4) Controls and instrumentation: 26

SECTION 6: PROPULSION 27
6-1) General: 27
6-2) Transmission: 27
6-3) Stern tubes / Propeller shafts: 27
6-4) Propellers: 27
6-5) Monitoring: 27

SECTION 7: MACHINERY / PIPING 28
7-1) General: 28
7-2) Piping: 28
7-3) Generator sets: 28
7-4) Fire fighting system: 29
7-5) Bilge system: 29
7-6) Hydraulic system: 29
7-7) Working air system: 30

SECTION 8: ELECTRICAL INSTALLATION 31
8-1) Power supply: 31
8-2) Electrical switchboards: 31

SECTION 9: NAVIGATION ELECTRONIC EQUIPMENT 32

SECTION 10: REMOVABLE EQUIPMENT 33
10-1) Navigation equipment: 33
10-2) Documents: 33
10-3) Signals: 33
10-4) Fire extinguishers: 33
10-5) Safety equipment: 33
10-6) First-aid kit: 34
10-7) Dock lines and fenders: 34
10-8) Dinghies and outboards: 34
10-9) Hosepipes: 34

SECTION 11: TRIALS 35
11-1) General: 35
11-2) Documentation: 35

SECTION 12: MISCELLEANOUS 36
12-1) Design: 36
12-2) Bureau Veritas: 36
12-3) Insurance: 36
12-4) Tooling and documentation: 36

SECTION 1: ALUMINIUM HULL

1-1) GENERAL:

The OCEA Commuter 155 described hereafter has been designed by JOUBERT / NIVELT naval architects

Main Characteristics:

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- Length overall:	47.00 m
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The OCEA Commuter 155 is designed for long-distance cruising in any ocean and assigned the Bureau Veritas navigation notation “unrestricted navigation”.

No ice class notation is assigned to the OCEA Commuter 155 described hereafter. To be noted that navigation in ice is unrelated to the navigation notation and can only be conducted strictly under the Ship Owner’s responsibility.

Hull description:

Hard chine hull, with vertical bow.

The design features one main deck, a bridge deck, an upper sun deck, and a stern with an integrated swim-platform.

Scantling:

Scantling of hull plating in accordance with BUREAU VERITAS rules and regulations for yachts construction.

Material quality:

Hull, decks and superstructures are built in approved seawater resistant aluminium alloy.
Aluminium plating in alloy 5083 H111 and 5086 H111, profiles in alloy 6005 T5 and 6060 T5.
The whole yacht is of welded construction.

Fairness of hull:

The fairness of the bare aluminium hull plating, after grinding off the external welds, will be of such accuracy that when a 3 metre batten is placed over any part of the hull no deflection of more than 6 mm will be found.

Watertight integrity:

The overall watertight integrity of the vessel will be ensured. Particular attention will be paid to the water separation systems in ventilation ducts by means of special water filters behind the louvers. All openings in the weather deck and superstructure will have easy to operate manual means of closing the duct or shaft in adverse weather conditions.

Scupper pipes and freeing ports:

All areas of the deck and superstructure where water may collect will have an adequate mean of drainage for all trim conditions and whenever the vessel is rolling at sea.

Machinery removal hatch:

The main deck over the engine room will incorporate a large hatch through which the engines and other major items of machinery can be removed by a crane.

Ballasts:

If required, and according to the Naval Architect directions, a maximum 2 000 kgs trim ballast will be permanently fixed in the vessel.

1-2) COMPARTMENTS:

Under main deck:
From stern to bow, the hull is divided into five compartments by four watertight bulkheads:
- Stern lazarette
- Engine compartment
- VIP guests staterooms (2) and / Guests staterooms (2)
- Crew accommodation compartment
- Dry forepeak / Chain locker

Over main deck:
From stern to bow, the main deck is divided in five zones:
- Swim-platform / Aft deck
- Main salon / Main dining room
- Galley / Main pantry / Main lobby / Main day toilet
- Owner's stateroom
- A tender area / mooring and anchoring deck

On bridge deck:
The bridge deck is divided in three zones:
- Stop-and-go helicopter landing area / Dining area
- Upper dining room / Upper lobby / Upper day toilet
- Upper pantry / Captain's cabin / Wheelhouse

On upper sun deck:
The upper deck is divided in four zones:
- A 90° pivoting aft deck to allow the helicopter l anding operations on the bridge deck
- Bar area
- Enclosed gymnasium
- A sunbathing area

Watertight bulkheads:
Watertight bulkheads are arranged to divide off the lazarette to the engine room, the engine room to the VIP guests staterooms (2), the aft guests staterooms (2) to the crew accommodation, the crew accommodation to the forepeak.

1-3) TANKS:

Tanks are arranged in accordance with the Naval Architect's drawings, and unless otherwise stated, will be integral with the hull. Tanks will incorporate, if required, adequate baffling to minimise surging of fluids.

Fuel oil tanks:

Fuel oil is stored in integrated tanks having a total capacity of 40,000 litres, in order to ensure a 4,500 nm range at 10 knots.
Two filling stations are located in the passage ways. From these filling stations, pipes lead to the fuel oil tanks, and allow to fill the different fuel tanks one by one or simultaneously.
The vent pipes of the fuel tanks are all connected to a unique box of approximately 50 litres located in the engine room. This box indicates the filling status of the fuel oil tanks and prevents from spilling fuel oil on deck when the tanks are being filled up.

Two day-tanks of 1,000 litres each are located in the engine room above the level of the machinery and filters. Each day-tank is equipped with a "Low level" contact with alarm reporting in the wheelhouse. The filling of the day-tanks is made through:
- An ALFA LAVAL separator MIB 303 type
- A main 220/380 Vac self-priming 5.5 m³/h electric pump that can also be used for fuel transfer between tanks via the filling manifold.
- A fail-safe by-pass as a back up, in the event of the transfer pump failing, to draw fuel directly from any of the hull tanks via a manifold to the pre-filters.

In line to all diesel engine fuel supplies are Duplex RACOR water separator filters incorporating vacuum gauges and moisture sensors, and ALGAE-X anti-bacterial filters. A remote control isolation valve is incorporated so that the fuel supply can be shut off to all machinery in the event of a fire.

Fresh water tanks:

Fresh water is stored in integrated tanks having a total capacity of 6,000 litres.
Fresh water distribution throughout the yacht is produced by two GIANNESCHI JET 518 type pressure sets.

Hot water is produced through two 200 litres electrical THERMOR type water heater. Continuous circulation of hot water throughout the yacht is produced through two electrical pumps NSB 40-25S type in order to guarantee instant hot water availability.

Fresh water is produced from one TECNICOMAR MD 2000 type or equal reverse osmosis water maker of 300 litres/hour output, from salt water at 20°C.

A sufficient number of fresh water outlets, with GARDENA type quick connectors, are conveniently located outside (at least one on each deck), to allow washing down the yacht.

Grey/black water tank:

The grey/black water tank, 1,500 litres capacity, collects water drained from the galley sinks, dishwasher, hand basins, showers, bath tubs, laundry, and from the toilets. The galley sinks discharge through a grease trap easily accessible for cleaning.

The grey/black water tank is vented to a point as high as possible in the mast to avoid odours on the deck.

The tank is equipped with a high level contact with alarm in the wheelhouse. Tank overboard discharge is by either auto or manual control. The grey/black water is treated before discharge overboard by a HAMMAN SUPER MINI unit.

Waste oil tank:

A waste oil tank, 170 litres capacity, is located in the engine room.

Used oil from the engines and gearboxes are transferred into the waste oil tank via manual individual pumps and a removable flexible pipe with connectors.

The waste oil tank can be pumped through a deck plug via a 220/380 Vac CALPEDA 2.2 m³/h CA90E electric pump type.

Levels measuring:

Measuring gas-oil and fresh water levels is accomplished via pressure gauges with indicators in the wheelhouse.
Grey/black water and waste oil levels are measured manually with a graduated stick gauge.
Sight glasses, with valves at the top and at the bottom, are provided as back-up level measuring to the fuel oil day-tanks.

1-4) DOCKING / ACCESS:

Docking:

Hull protections for docking shall be located and conceived to bear the constraints of docking alongside a wharf or a floating pontoon. They are manufactured in welded aluminium profile.

Access / Boarding:

Boarding and un-boarding of passengers are made:
- Through one lateral door in the bulwark on each side, 0.80m width about.
- Through one lightweight removable side gangway in aluminium or equal, manually operated, complete with removable handrails, dock wheels, and pantograph steps covered with teak, MARQUIPT “S” type or equal. This gangway is stowed at sea along the bulwark.
- Through one telescopic stern gangway, hydraulically operated, integrated in the lazarette, teak covered, complete with stanchions, OPACMARE 1002-50 type or equal.
- Through one stern door in the transom, hydraulically operated, integrated flush in the transom, 3.50m width about.

Bulwark and guardrails height of 1 meter.

1-5) ANCHORING / MOORING:

On the aft deck:
- 4 stainless steel bollards.
- 4 anodised aluminium fairleads.
- 2 vertical 220 Vac electric capstans MAXWELL VC 4000 type or equal, with foot switch.

On the fore deck:

- 4 stainless steel bollards.
- 4 anodised aluminium fairleads.
- 2 x HPT galvanised anchors of 250 kg each.
- 2 x 180m of galvanised stud less chain, U2 grade, 22 mm diameter with MUIR chain stopper and slip hook.
- 2 separate chain lockers in the forepeak, with access through a watertight hatch. The chain lockers are sized so that the chains are totally self-towing without any manual handling.
- Sea water anchor wash system for the chains by the general fire-fighting electric pump controlled from the fore deck.
- 2 vertical hydraulic windlass MUIR VR 11000 type or equal.

On the side passageways:

- 4 anodised aluminium Panama fairleads.

1-6) ARCH AND MAST:

One aluminium arch and mast styled in accordance with the Naval Architect's profile.
The mast above the arch carries regulations lights, foghorn, spotlight and searchlight, and the navigation equipment aerials.

The sun deck is fitted with a wind deflector.

1-7) ENGINE ROOM VENTILATION:

Ventilation of the engine room is made through air ducts emerging at the main deck side passageways. The ventilation system will be calculated according to the engine room air combustion requirements. These ventilation ducts are equipped with suitable closing systems.
A stand-by 24 DC electrical extractor, capacity 800 m^3/hour, renews the engine room air after eventual use of inert gas fire extinguisher.

The engine room fans will be flexibly mounted; and the entire engine room ventilation system fitted with sound attenuators in order to achieve the stipulated low levels of noise and vibration.

1-8) ENGINE ROOM FLOOR AND PROTECTIONS:

The engine room floors are manufactured in anti-skid aluminium plates fastened to the aluminium structure. All essential parts located under the engine room floor are easily accessible by removable panels.
All moving parts and hot parts in the engine room and in the lazarette are protected by proper casing or railing.

1-9) WATER INTAKES AND DISCHARGE PIPES:

Raw water supply, for various purposes (fire pumps, general service, water maker, air conditioning, hydraulic cooling, and diesel engines cooling) is provided through aluminium sea chests equipped with filtration griddles, stainless steel sea cocks mounted on isolated bridles, and stainless steel filter baskets incorporating sacrificial anodes.

Two vertical discharge pipes are located within the engine room, at a maximum distance from the intakes. One discharge pipe will serve the grey/black water and bilge discharge; and the other will serve the cooling water discharge for various equipments.

1-10) STEERING APPAREL:

Main steering system is a LECOMBLE & SCHMIDT type or equal hydraulic steering machine powered by an independent electro-hydraulic power unit located in the lazarette.

Steering is provided through the wheel and the joystick in the wheelhouse.
Manual stand-by steering is provided through the wheel in the wheelhouse and a manual hydraulic pump.

1-11) SWIM-PLATFORM:

A swim-platform covered with teak decking is integrated in the hull transom. Access to this platform from the main deck is provided through two lateral doors in the aft bulwark and teak covered stairs.

The platform is equipped with a hot and cold fresh water shower.

1-12) BOWTHRUSTER:

One hydraulic bow thruster QUANTUM QT 120 type or equal with dual prop counter rotating.
Controlling is provided through a joystick in the wheelhouse.

1-13) STABILISATION SYSTEM:

The yacht is equipped with a QUANTUM QC 1500 type or equal stabilisation system for roll at anchor and underway.

1-14) HYDRAULIC CRANES:

One hydraulic crane STEEL HEAD MARINE CT 2500 type or equal, with a maximum load of 1 136 kg, is installed on the fore deck for launching the tenders.

One hydraulic ceiling crane OPACMARE 3122 type or equal, with a maximum load of 500 kg, is installed in the lazarette for launching jet-skis.

1-15) TENDERS STOWAGE:

The tenders are secured on custom made painted aluminium chocks shaped to the hulls. White heavy-duty rubber profiles are incorporated in the supports. Strong securing eyes are integrated to the design.

1-16) STAINLESS STEEL:

All stainless steel will be minimum 316 grade and brush polished to a high standard.
Stainless steel railing in accordance with the Naval Architect's profile.

1-17) COVERS:

Protection covers are supplied for the following items:
- Front wheelhouse windows
- Exterior tables

The tenders covers are Owner's supply.

SECTION 2: GENERAL ARRANGEMENT

2-1) GENERAL:

The interior accommodation will be in accordance with the Naval Architect's General Arrangement drawing and manufactured according to the best industry standards.

Before construction, at each stage of the interior, the shop drawings will be submitted to the Owner and the Owner's Representative for approval.

Materials quality and finish:

All the materials used in the accommodation meet the following requirements:
- Compliance with Classification Society and MCA regulations
- Ease of maintenance
- Good thermal and sound characteristics

Particular care and attention to the quality of finish in the accommodation will be paid, so that the agreed standard is achieved. Where wood is used, the grains will carefully match and the tone and colouring of the panels will be consistent. All veneers will be a minimum of 0.6 mm thick. All lacquer and varnish will be one component polyurethane type. Care will be taken in stabilising any wooden component so that imperfections caused by movement of the wood do not occur.

Fixations:

All the assembling to be done using proper naval techniques, resisting to marine environment: screws, clips, rivets, glue…
All the mechanical fastenings will be concealed from view, unless specific Designer's requirements.
All accommodation elements covering components that require an easy access for periodical inspections or interventions (cables, wires, pipes, pumps, filters, etc.) will be easily removable.

2-2) THERMAL INSULATION:

For all bulkheads and decks in the living quarters and in the wheelhouse exposed to outside heat or cold, thermal insulation is provided by a layer of rock wool, density 40 kg/m³, thickness 100 mm, with aluminium film (hull planking, exterior superstructures walls and exterior decks). For the same rooms, but on other bulkheads or floors, thermal insulation is provided by a layer of rock wool, density 40kg/m³, thickness 50 mm, with aluminium film.

2-3) SOUND INSULATION:

All necessary steps will be taken to ensure that the construction of the vessel and the installation of the equipment will meet the objective of low levels of noise and vibration. Structure borne and airborne noise will be minimised.

Isolation of joinery:

To attain the necessary low acoustic levels, all items of joinery that are attached to the hull structure will be flexibly mounted by means of rubber supports, so that the entire accommodation including deck head groundings and cabin sole are free-floating.
The accommodation joinery work will not be stressed by flexing of the hull structure.
Any binding of doors and other movable joinery components with subsequent squeaks will not be acceptable.

Partitioning:

All doors and bulkheads will be of adequate mass to reduce noise transmission between adjacent compartments. Doors will have rubber sealing at the jambs and incorporate anti-rattle hardware.

Machinery areas:

In the engine room and in the lazarette sound insulation made of a soundproofing complex is fitted on the ceiling and on the walls 500 mm down to waterline level.

All running machinery are installed on vibration dampeners, generator sets are in special sound shields, and the diesel exhausts are equipped with sound attenuators of high efficiency.

Noise and vibration levels:

The conditions to achieve the target noise levels are as follows:
- All fittings, upholstery, bedding installed
- Doors and windows closed
- Noise measurements at 1 meter above the floors and the decks
- Sheltered waters with no wind
- Hydraulic deck equipment not under operation

The maximum target noise levels that will be achieved during the trials before delivery are as follows:

Cruising at 80% power:

- Owner's cabin:	58 dBA
- Guests cabins:	64 dBA
- Crew quarters:	60 dBA
- Main salon/dining room/galley:	62 dBA
- Upper salon/Wheelhouse:	58 dBA

At anchor with one main generator and air conditioning:

- Owner's cabin:	48 dBA
- Guests cabins:	52 dBA
- Crew quarters:	48 dBA
- Main salon/dining room/galley:	50 dBA
- Upper salon/Wheelhouse:	48 dBA

A tolerance of 2 dBA is acceptable, and beyond this level, the Owner is not obliged to accept the vessel until the noise level is reduced to within tolerance stipulated.

2-4) JOINERY WORK STANDARDS:

For budgeting purpose, the reference for the general standard of the Owner's and guest quarters is the standard of an existing yacht.
The Owner's and guest quarters include:
- Owner's stateroom
- VIP guests staterooms (2), guests staterooms (2)
- Lower deck guests lobby
- Main salon, main dining room, main lobby, and main day toilet
- Upper dining room, upper lobby, and upper day toilet

For budgeting purpose, the reference for the general standard of the crew quarters is the standard of an existing yacht.
The crew quarters include:

- Lower deck crew quarters
- Galley, and main pantry
- Wheelhouse, Captain's cabin, and upper pantry

2-5) INTERIOR ARRANGEMENTS:

Furniture description:
The furniture description in this chapter is indicative only and will be a matter of discussions during the final studies.

Structure:
The structure to support floors, ceilings, and walls, are constructed from either marine plywood or hardwood framing.

Floors:
All floors are "floating", made out of BARYFLOOR type phonic plywood, fitted on SYLOMER type vibration absorber gaskets. Hatches are placed where necessary to allow access to the technical equipments and bilges maintenance.

Ceilings:
Overhead panelling to be removable marine plywood panels, covered to Owner's choice.
Exterior ceilings are made in lacquered aluminium.

Bulkheads/Walls:
The bulkheads are made of a sandwich of high density rock wool core between two layers of aluminium covered according to the interior design finish.

Built-in furniture:
All built-in furniture are constructed of solid timber frames, marine plywood, and selected veneers.

Berths:
In Captain's and crew cabins, berths with 8" mattresses.
In Owner's and guests cabins, berths with 10" mattresses on top of box-spring mattresses.

Hanging wardrobe and lockers:
Hanging wardrobes incorporate a stainless steel rail and have automatically activated lighting when the door is opened. Doors are equipped with friction restrictor stays.

The design will incorporate means of ventilation for wardrobes, and concealed ventilation slots in the kick recess for floor level cupboards, or behind the cornice of overhead cupboards.

Shelving:
All cupboards and lockers will incorporate intermediate shelving with fiddle rail up-stand on the front edge.
There will be an abundance of book shelving within the interior, arranged to take a variety of book sizes.

Drawers:
Drawers will be retained in the closed position by means of lift and pull wedges, or push latches.
Drawers will have powder coated roller track runners and will be fitted with end stops.

Air conditioning grills:
The area behind the grills will be blacked out so that no trunking or components are visible through the grills. The grills will be removable for cleaning.

Mirrors:
All mirrors will be of best quality glass with ground and polished edges. The edges and backs will be suitably sealed to prevent moisture penetration.

Sanitary ware:
The accessories for Owner's and guests bathrooms will be of SOHA INDUSTRIE or equal, and will include for each bathroom:

- 1 heated towel rack
- 1 or 2 towel rods
- 1 double robe hook
- 2 grab rods
- 2 soap dishes
- 1 paper holder
- 2 tumble-toothbrush holders

The accessories for the Captain's and crew bathrooms will be chrome plated, and will include for each bathroom:

- 2 towel racks
- 1 double robe hook
- 2 grab rods
- 2 soap dishes
- 1 paper holder
- 2 tumble-toothbrush holders

Dedicated stowage:
There will be dedicated stowage for cutlery, crockery, glassware, bottles, etc.
Throughout the vessel and adjacent to each entertainment centre, there will be special stowage inside cabinets for videos and CD's.
Mounting of 20 Owner supplied paintings; plus items described in subheading 10-1 such as, clock, barometer, etc.

Galley and domestic equipment:
Any item of equipment that consumes more than 2 kW will be ordered three phases. Large items will be securely fastened and easily removable for maintenance. When replacement is required, they can be taken out of the vessel through existing openings or specific hatches.

Handrails:
Sufficient quantity of handrails are supplied and fitted. Material and design will be submitted to Owner's approval.

Hardware:
The hardware will be designed for marine environment, of VALLI&VALLI and SCHWEPPERS or equal. The locks will be anti-rattle type three pieces tongue.

Owner's stateroom:

The Owner's cabin is equipped, as a guideline, with:
- One double bed. The base includes four drawers.
- Two bedside tables
- One built-in sofa
- One desk with drawers
- Book shelving
- Low cabinets.

- Two bathrooms each equipped, as a guideline, with:
. A shower with an anti-splash safety glass screen
. A basin inserted in a cabinet
. An upper cabinet with a mirror
. A toilet WATERFLASH 2003 type or equal
. A bathroom and toilet set.

- A dressing on starboard side equipped, as a guideline, with:
. Hanging wardrobes each divided in hanging and shelves.

- An entrance office on starboard side equipped, as a guideline, with:
. A desk with drawers
. Low cabinets

VIP guests staterooms (2):

The VIP guests cabins are equipped, as a guideline, with:

- One double bed. The base includes four drawers.
- Two bedside tables
- One built-in sofa
- Book shelving
- Low cabinets.

- A bathroom equipped, as a guideline, with:
. A shower with an anti-splash safety glass screen
. Two basins inserted in a cabinet
. An upper cabinet with a mirror
. A toilet WATERFLASH 2003 type or equal
. A bathroom and toilet set.

- A dressing equipped, as a guideline, with:
. Hanging wardrobes each divided in hanging and shelves.

Guests staterooms (2):

The guests cabins are equipped, as a guideline, with:

- Two single beds. The base of each bed includes two drawers.
The base of the exterior bed can slide laterally in order the two single beds to become one double bed.
- One central bedside table
- One wardrobe, divided into hanging and shelves
- One cabinet to hull side
- One full height mirror.

- A bathroom equipped, as a guideline, with:
. A shower with an anti-splash safety glass screen
. A basin inserted in a cabinet
. An upper cabinet with a mirror
. A toilet WATERFLASH 2003 type or equal
. A bathroom and toilet set.

Crew cabins (4):

The crew cabins are equipped, as a guideline, with:

- Two single beds, the lower bed includes two drawers.
- One wardrobe, divided into hanging and shelves
- Book shelving on hull side
- A bathroom equipped, as a guideline, with:
. A shower with an anti-splash safety glass screen
. A basin inserted in a cabinet
. An upper cabinet with a mirror
. A toilet WATERFLASH 2003 type or equal
. A bathroom and toilet set.

Engineer's cabin:

The Engineer's cabin is equipped, as a guideline, with:

- One single bed. The base includes two drawers.
- One wardrobe, divided into hanging and shelves
- Book shelving on hull side

- A bathroom equipped, as a guideline, with:
. A shower with an anti-splash safety glass screen
. A basin inserted in a cabinet
. An upper cabinet with a mirror
. A toilet WATERFLASH 2003 type or equal
. A bathroom and toilet set.

Crew mess:

The crew mess is equipped, as a guideline, with:

- One dining table
- One built-in U-shaped settee with storage underneath
- Two stools
- Open lockers on hull side
- One cabinet
- One under-counter refrigerator
- One microwave oven.

Laundry:

The laundry is equipped, as a guideline, with:

- One washing machine MIELE type or equal
- One condensing electric drying machine MIELE type or equal
- Linen lockers.
- Stowage cabinets for the ironing equipment.

Stores:

- One walk-in store
- One positive walk-in refrigeration room
- One negative walk-in refrigeration room.

Main salon:

The main salon is equipped, as a guideline, with:

- One built-in settee
- Low cabinets including one audio/video cabinet
- One TV monitor secured on an electrical telescopic platform
- One coffee table
- Book shelving.

Main dining room:

The main dining room is equipped, as a guideline, with:

- One dining table for 12 persons
- One low cabinet on both sides
- Stowage cabinets.

Main pantry:

The main pantry is equipped, as a guideline, with:

- One two-levels dumb waiter
- One single stainless steel sink with a mixer equipped with a carbon filter
- One under-counter fridge
- One ice-maker
- One microwave oven
- Low storage cabinets.

Main day toilet:

The main day toilet is equipped, as a guideline, with:

- One toilet WATERFLASH 2003 type or equal
- One toilet set.

Galley:

The galley is equipped, as a guideline, with:

- Two built-in cabinets with working tops.
- One double stainless steel sink with a mixer equipped with a carbon filter.
- A set of galley equipment GAGGENAU type or equal including:
. Two refrigerators
. One freezer
. One glass-ceramic cooking table with stainless steel pan holders
. One self-cleaning electric oven
. One fume-aspiration hood
. One microwave oven
. One dishwasher
- Stowage in cupboards for pots, pans, and cooking utensils.
- Stowage or securing of Owner supplied items such as coffee machine, food processor and accessories, toaster, kettle, etc.
- China, table linen, and portable electric domestic appliances supplied by the Owner.

Upper dining room:

The upper dining room is equipped, as a guideline, with:

- One dining table for 12 persons
- One low cabinet on both sides.
- Stowage cabinets

Upper day toilet:

The upper day toilet is equipped, as a guideline, with:

- One toilet WATERFLASH 2003 type or equal
- One toilet set.

Upper deck pantry:

The upper deck pantry is equipped, as a guideline, with:

- One two-levels dumb waiter
- One single stainless steel sink with a mixer equipped with a carbon filter
- One under-counter fridge
- One ice-maker
- One microwave oven
- Low storage cabinets.

Captain's cabin:

The Captain's cabin is equipped, as a guideline, with:

- One single bed. The base includes two drawers.
- One wardrobe, divided into hanging and shelves
- One desk with drawers
- Book shelving

- A bathroom equipped, as a guideline, with:
. A shower with an anti-splash safety glass screen
. A basin inserted in a cabinet
. An upper cabinet with a mirror
. A toilet WATERFLASH 2003 type or equal
. A bathroom and toilet set.

Wheelhouse:

The wheelhouse is equipped, as a guideline, with:

- One main console allowing internal circulation for maintenance purpose, integrating the following equipment:
  * Engine controls, throttle and gear
  * Tiller and rudder indicator
  * Steering wheel
  * Electronic equipment
  * Magnetic compass
  * Fire detection system
  * Engines instruments and alarms panel
  * Electrical panel for various controls
  * Storage for navigation materials and small equipment

- Handholds where required and to the approval of the Owner and the Owner's representative
- One chart table, next to the instrument console, with chart drawers
- A console above the chart table for various electronic navigation and communication instruments
- One settee on a raised platform to allow good outside visibility when seated
- One table in front of the settee
- Book shelving
- Two helmsman chair with foot rest
- Three pantograph type windscreen wipers with fresh water window wash.

Upper sun deck:

The upper sun deck is equipped, as a guideline, with:

- One lacquered aluminium support forward for sunbathing mattresses
- An enclosed gymnasium
- A lacquered aluminium bar cabinet including shelves, one stainless steel sink with a mixer, one ice-maker, and one under-counter refrigerator
- A 90° pivoting platform, hydraulically controlled , to allow the helicopter operations on the bridge deck stop-and-go landing area.

Exterior Bridge deck:

The exterior bridge deck is equipped, as a guideline, with:

Portuguese bridge:
- Storage lockers inside the bulwark
- Racks for fenders storage on both sides.

Aft bridge deck:
- One dining table for 12 persons
- A Stop-and-go helicopter landing area.

Exterior main deck:

The exterior main deck is equipped, as a guideline, with:

Aft main deck:
- One built-in lacquered aluminium settee, with removable cushions, and storage underneath.
- One table in front of the settee.

Swimming platform:
- One recessed deck shower, with hot and cold water.

Aft lazarette:

The aft lazarette is equipped, as a guideline, with:

- Shelves and racks for spare parts and small deck equipment
- One workbench with bench-vice
- Shore connections (one fresh water hosepipe, one electrical cable, and one telephone cable)
- One trash compactor ISE/BLANCO type 77 or equivalent.

Forepeak:

The forepeak is equipped, as a guideline, with:

- Aluminium railing for the stowage of dock lines, fenders, etc.

Engine room:

The engine room is equipped, as a guideline, with:

- One hand-washing basin with hot and cold water
- Storage cabinets for systems operations manuals.

2-6) EXTERIOR TEAK DECKS:

The following exterior decks are covered with teak decking:
- Swim-platform
- Aft main deck and passageways
- Aft bridge deck, passageways, and Portuguese bridge
- Upper deck.

The decks are covered with First European Quality choice teak slats 20 mm thick and 55 mm wide.

The top of the bulwark around the aft main deck and side passageways, around the Portuguese bridge, and around the foredeck, is covered with a teak-capping rail.

The top of the railing, around the bridge deck side passageways is covered with a teak-capping rail.

The access flush deck hatches are clad in teak in a similar manner to the main decking.

2-7) STAIRS AND DOORS:

Stairs:

- The exterior stairs from the swim-platform to the aft main deck, from the aft main deck to the bridge deck, and from the bridge deck to the upper sun deck are integrated in the aluminium structure, and built in lacquered aluminium with closed risers and teak treads with planks and margins to match the decking.
- The interior stairs are built in aluminium and covered according to the interior finish.

All stairs are equipped with handrails in aluminium, stainless steel, or wood, depending on the location.

- The interior accesses to the aft lazarette and to the forepeak are provided with vertical aluminium ladders.

A removable swimming ladder complete with handrails, stored while underway, is supplied to be positioned on the swim-platform. The ladder is designed so that, when positioned, the bottom step is at least 1.2 metres below the water surface.

Regulatory emergency exits are provided by rope ladders.

Doors:

The exterior access door to the lazarette and the deck hatches are watertight, built in lacquered aluminium, with a multi-point locking system.

The exterior aft double doors to the main salon are hinged doors, built with a solid wood frame and full height windows.

The exterior aft double doors to the upper dining room are manually sliding doors, built with a lacquered aluminium frame and full height windows.

The exterior starboard and port side main deck passageways doors to the interior are built in solid teak, and have a fixed porthole in their upper section.

The exterior side doors to the wheelhouse are built in aluminium, internally covered with a finish according to the interior design, and have a fixed porthole in their upper section.

All exterior doors are provided with a high security cylinder lock system suitable for marine use.

The access from the Portuguese bridge to the fore deck is provided by a catapult type door built in lacquered aluminium.

The interior access doors between two watertight compartments are constructed as to withstand the hydrostatic pressure in case one of the two compartments is fully flooded, and will incorporate a multi-point locking system and a fireproofed joint.

The following interior hatches are watertight, and of FREEMAN type or equal:
- Emergency exit from the crew accommodation compartment.
- Emergency exit from the guests accommodation compartment.

2-8) WINDOWS AND PORTHOLES:

Windows glazing in both the hull and superstructure is of armoured glass, not less than 12 mm thick.

The portholes and window boxes will incorporate concealed curtain tracks. All curtains will be lined with heavy quality blackout material.

Under main deck:
Hull portholes are constructed from anodised aluminium and incorporate a removable deadlight.
- The VIP guests cabins are equipped each with two fixed windows, one opening window, one fixed porthole, and one opening porthole.
- The guests cabins are equipped each with two fixed portholes and one opening porthole.
- The crew mess is equipped with two fixed portholes and one opening porthole.
- The crew cabins are each equipped with two fixed portholes.

Main deck:
Opening windows in the superstructure are of sliding type.
- The main deck salon is equipped on each side with four fixed windows and two opening windows.
- The dining room is equipped on each side with three fixed windows and one opening window.
- The galley is equipped with one fixed window and one opening window.
- The owner's entrance office is equipped with one fixed window and one opening window.
- The owner's cabin is equipped on each side with two fixed windows, one opening window, and one opening porthole.

Bridge deck:
Opening windows in the superstructure are of sliding type.
- The upper dining room is equipped on each side with four fixed windows.
- The wheelhouse is equipped with 11 fixed windows. Removable storm shutters are provided for front wheelhouse windows.

2-9) LIGHTING - POWER SOCKETS:

Lighting appliances will be submitted to Owner's approval.

All lights in technical rooms comply with class regulations.

The approximate number of appliances is 250 individual light fittings, 120 switches and sockets. All sockets are double and European type.

Ten Owners' supplied table lamps will be installed and connected to sockets switched from the main lighting circuits.

2-10) HI FI / VIDEO / COMMUNICATION / SECURITY:

HIFI / Video

The following list is indicative only. The equipment choice will be finalised by the Owner before order.

Main deck salon:
- 1 plasma screen HITACHI HD 42"
- 1 Home cinema Lifestyle 48 BOSE.

Main dining room:
- 1 system BOSE Freespace 3.

Owner's cabin:
- 1 TV LCD 16/9 LOEWE ref. XELOS A37 94 cm
- 1 Home Cinema BOSE 3.2.1.

VIP guests cabins (2), guests cabins (2), Captain's cabin, Crew mess:
- 1 TV LCD 4/3 LOEWE ref. XELOS A20 51 cm
- 1 DVD/CD/Tuner player
- 2 speakers BOSE 161.

Upper dining room:
- 1 system BOSE Freespace 3.

Wheelhouse:
- 1 system BOSE Freespace 3.

Aft main deck:
- 2 marine speakers BOSE 131
- 1 remote control BOSE Personal Music Center.

Aft bridge deck:
- 2 marine speakers BOSE 131
- 1 remote control BOSE Personal Music Center.

Sun deck:
- 2 marine speakers BOSE 131
- 1 remote control BOSE Personal Music Center.

Satellite TV reception:

- 1 antenna TRACVISION G8 or equal
- 6 demodulators ASTON.

CCTV system:

A CCTV system is installed as follows:
- 1 camera aft main deck
- 1 camera aft bridge deck
- 1 camera in the engine room
- 1 monitor 12” in the wheelhouse
- 1 monitor 12” in the crew mess.

Intercom system:

A Talk Back System CANTALUPI type or equal is installed as follows:
- 1 main station in the wheelhouse
- 1 loud speaker at the fore deck
- 1 loud speaker at the aft main deck
- 1 loud speaker in the lazarette.
- 1 station with microphone and helmet in the engine room (with call flashlight).

Anti-intrusion alarm system:

An anti-intrusion alarm system is installed as follows:
- 1 ELKRON MP110 anti-intrusion unit type or equal
- 4 sensors in the interior main deck
- 6 control pads for opening
- 1 alarm signal.

Telephone system:

A telephone system is installed as follows:
- 1 PABX ERICSSON MD Evolution XL type or equal
- 1 phone set in all cabins, main salon, dining rooms, galley, wheelhouse, and crew mess.

2-11) OWNER'S DECORATIVE ELEMENTS:

Equipments such as outside chairs, outside lounging chairs, paintings, desk lamps, carpets, linen, china, and bedding will be Owner supplied.

SECTION 3: VENTILATION / AIR CONDITIONING

3-1) NATURAL VENTILATION:

The following quarters are naturally ventilated:
- Batteries storage compartments, with a high and a low ventilation.
- Living quarters through opening windows and portholes.

There will be means of closing off the above ventilation shafts in bad weather.

3-2) MECHANICAL VENTILATION:

All proposed ventilation systems, including the air conditioning system, will be optimised by acoustic studies conducted by the builder. Careful consideration will be given to the reduction of noise due to excessive air velocity. All forced air systems, including air conditioning, will have a maximum duct air of 10 m/s.

All fans and duct supports will be flexibly mounted and care in design will be taken to avoid sound transmissions from one compartment to another. Sound attenuators will be incorporated in the ducting to avoid noise level being carried back up to the shafts.

Care will be taken in the design of the ventilation systems, such as the outlets being clear from the recreational deck areas in order not to disturb the guests by noise or smells.

The following quarters will be mechanically ventilated:
- The engine compartment with two insulated fresh air aspiration ducts. A mobile emergency extractor renews the engine room air after an eventual use of the inert gas fire extinguishers. (cross refer to § 1-7)
- The aft lazarette with a centrifugal extraction fan.
- The living quarters and the sanitary spaces with centrifugal fans connected to an air duct network.
- The galley with one hood equipped with a grease filter.

There will be a manual mean of closing off the above ventilation shafts in bad weather.

3-3) AIR CONDITIONING:

The air conditioned spaces are considered closed. The elements taken into account for the installation are the following:

Outside conditions:

In summer:
- Air temperature: + 35°C
- Sea water temperature: + 32°C
- Humidity: 75% RH

In winter:
- Air temperature: + 5°C

Inside conditions:

In summer:
- Ambient temperature: + 22°C
- Humidity: 50% RH

In winter:
- Ambient temperature: + 20°C
- Humidity: Non controlled

Air conditioned quarters:

- Under main deck:
  . VIP guests cabins (2)
  . Guests cabins (2)
  . Crew quarters

- On main deck:
  . Main salon
  . Main dining room
  . Main lobby
  . Main pantry
  . Galley (except during cooking periods)
  . Owner's stateroom

- On bridge deck:
  . Upper dining room
  . Upper lobby
  . Upper pantry
  . Wheelhouse

- On upper deck
  . Enclosed gymnasium

Principles of installation:

Fresh air is aspirated through a central air conditioning unit and distributed by sections to the air conditioned quarters.
Internal treatment of all air conditioned quarters by fan coil units connected to a chilled water circuit.

The air renewal system includes:
- One fresh air treatment unit with variable flow blowing fresh air in the living quarters.
- One air extraction unit removing the foul air from the living quarters.
- One chilled water insulated network feeding chilled water in the fan coils and the fresh air unit.
- One individual temperature control for each cabin.

Air is extracted from the sanitary spaces through two centrifugal fans (one in the front and one in the aft) linked to extraction ducts. Air is extracted from the dining room through one centrifugal fan. Air is extracted from the laundry and the crew mess through one centrifugal fan.

Heating by reverse cycle of the air conditioning system.

SECTION 4: PAINT

4-1) GENERAL:

Paint application is based on AWLGRIP filling and painting system.

Hull and superstructures will be fully faired. The fairing standard for the hull and the superstructures is the “top class yacht” standard.

Colour schemes and styling lines will be discussed and approved by the Owner and the Designer.

4-2) HULL:

Finish HEMPEL antifouling.
Two coats of antifouling are applied on the hull. A third coat is applied above the waterline (on a height of 30 cm), and on the appendages.

4-3) TOPSIDES/SUPERSTRUCTURES:

Finish AWLGRIP top coat.

4-4) UPPER DECK ROOFS:

Finish AWLGRIP non-skid top coat.

4-5) HULL INTERIOR:

Finish satin top coat.
Where applicable (engine room bilge, aft lazarette, interior of all deck lockers and underside of deck locker lids), and prior to fit-out.

4-6) GREY/BLACK WATER TANK:

The grey/black water tank is suitably coated with a paint system to withstand the acidic effects of the content. The finish will be smooth so that the tank can easily be cleaned as necessary.

4-7) CATHODIC PROTECTION:

The cathodic protection of the aluminium hull is provided by anodes placed all around the hull and its appendages. Number and locations will be defined after final study by the manufacturer.

4-8) SIGN WRITING:

The name of the yacht and the Port of Registry will be painted (or with stickers) on the transom using an approved script. Varnished teak name boards with the vessel's name carved and imprinted in black will be fitted on the port and starboard side of the superstructures.

4-9) PIPING IN THE ENGINE ROOM:

Colour coding is painted on the piping. Directions of flow arrows are stuck on the piping to facilitate the understanding of the pipe work.

SECTION 5: MOTORISATION

5-1) GENERAL:

Motorisation is provided by two CATERPILLAR marine diesel engines, four-stroke, 12 cylinders in Vee, direct fuel injection, turbocharged and after cooled.

Performances indicated in this section are according to ISO 3046/1 conditions.

The main engines and all associated items of equipment will be installed in strict accordance with the manufacturer's instructions. Particular attention will be paid in providing ease of access to those items that require regular maintenance and replacement.

5-2) CHARACTERISTICS:

The main characteristics of the CATERPILLAR diesel engines are as follows:

- Model:	C32 Acert
- Number of cylinders:	12 in Vee
- Bore / stroke:	145 x 162 mm
- Displacement:	32.1 litres
- Power:	970 bkW / 1300 bhp
- RPM:	2100 rpm
- Weight:	2547 kg

5-3) FUEL CONSUMPTION:

Fuel consumption of the CATERPILLAR engine is of 243.6 l/h, at full load, with a fuel calorific power above 10 200 kcal/kg.
The consumption figures are guaranteed with a 5% margin at full load, for an engine after 100 hours of running.

5-4) CONTROLS AND INSTRUMENTATION:

Control and security systems for each CATERPILLAR engine:

- Electronic display modules each including:
    - Alarm indicator
    - Stop switch
    - On/off switch

- MARINE POWER DISPLAY system for control of the engines and gearboxes parameters:
    - - Tachometer
    - - Engine load
    - - Cooling water temperature
    - - Engine oil pressure
    - - Engine oil temperature
    - - Fuel consumption
    - - Fuel pressure
    - - Fuel temperature
    - - Air temperature
    - - Gearbox oil temperature
    - - Gearbox oil pressure
    - - Hours counter
    - - Batteries voltage

SECTION 6: PROPULSION

6-1) GENERAL:

Propulsion is provided by two fixed pitch propellers in free water.

6-2) TRANSMISSION:

Transmission of engine power to the propellers is provided through ZF gearboxes 3050 type or equal, and thrust bearings.

6-3) STERN TUBES / PROPELLER SHAFTS:

The shaft tubes are built in stainless steel, 10 m/m thick, machine finished on the whole length. At both ends, fore and aft, they are equipped with bronze bearings and with seals of WALKER type or equal. They are aligned and definitively positioned, with CHOCKFAST resin, inside an aluminium structural tube. The structural tube is welded to the structure of the hull in a continuous manner.

The oil header tank will be positioned a minimum of 1 metre above the waterline, and fitted with a low level alarm reported on the central alarm panel.

The shafts are built out of steel solid rod, 125 mm diameter about. Fore and aft ends are conic machined, and fixed to the counter-flanges by bolting, and to the propellers by key, nut and lock wash.

A manual shaft brake is fitted together with a no-start engine relay, automatically activated when in use, and a visual alarm close to the throttle controls in the wheelhouse.

6-4) PROPELLERS:

Fixed pitch supra-divergent propellers with the following characteristics:

- Material:	cupro-aluminium alloy
- Diameter:	1300 mm about
- Number of blades:	5
- Class:	ISO 484-1981 class S

6-5) MONITORING:

Monitoring of the main engines is as follows:
- One monitoring system 2 levers/2 functions in the wheelhouse.
- A propulsion synchronizer with switch on/off in the wheelhouse.

SECTION 7: MACHINERY / PIPING

7-1) GENERAL:

In the planning and installation of all the mechanical systems, consideration will be given to good access for maintenance and repair. All the systems will be laid out in a neat and logical manner and labelled in English. Particular care will be taken with the layout of the pipe work. Pipes and direction of flow arrows will be painted using a conventional colour coding in order to facilitate the understanding of the circuits.

A flange or a NORMA coupling will be used where pipes penetrate watertight bulkheads.

The propulsion engines are aligned and mounted on elastic silent blocks placed under their rigid pads. CHOCKFAST resin is used under the silent blocks for positioning.
Gear boxes are coupled to the engines through a flexible VULKAN reinforced coupling.
Engines, gearbox, and shaft alignment is checked with a comparator and complies with the manufacturers requirements.

7-2) PIPING:

All piping is built according to class regulations in non-ductile materials such as, stainless steel, aluminium, or galvanised black steel.
All heterogeneous assembly between different piping materials are perfectly insulated by joints, washers, and polyamide guns. Sacrificial zinc anodes will also be incorporated where required.
Through hull valves are wafer type valves in stainless steel with flanges.

Fuel oil:

All fuel oil piping will be in stainless steel with a minimum number of couplings. Any necessary coupling will be easily accessible.
All valves will be in nickel plated brass, 90° shut -off ball-type, suitable for fuel use.

Seawater cooling:

All the suction and discharge piping from the seawater pumps of the engines are in copper-nickel alloy.
All seawater through hull suctions are fitted with stainless steel hull valves, wafer type, and filters.

Exhaust:

The main engines exhaust system is of semi humid type.
The generators exhaust system is of fully water injected type.

7-3) GENERATOR SETS:

Main characteristics of both generators are as follows:

Make:	KOHLER
Type:	KOHL 80 EFOZ
Continuous output:	80 kW
RPM:	1500 rpm

Both generators are equipped with rigid sound shields.

7-4) FIRE FIGHTING SYSTEM:

Fire detection system:

- 1 fire detection unit including 10 sensors.
- Break glass activation of the alarm system will be provided in the engine room and in the galley.

Inert gas system:

A fire fighting system by inert gas (CO 2) is dedicated to the engine room.

Water under pressure:

Fire fighting with sea water under pressure is provided in main by an electro-pump AZCUE CA 50/3A 2.2kW type or equal with a flow capacity of 17.5 m³/h at 12.5 m HMT.

The emergency is ensured by a motor-pump of 42 m^3/h capacity, located in the lazarette, with adequate flexible pipes.

7-5) BILGE SYSTEM:

Bilge system is provided in main by an electro-pump AZCUE CA 50/3A 2.2kW type or equal with a flow capacity of 17.5 m³/h at 12.5 m HMT.

The emergency is ensured by the emergency fire fighting electric pump and the motor-pump.

A bilge oil/water separator NELSON BILGE BOY 2.5 type or equal with a flow capacity of 0.57 m³/h is located in the engine room for bilge water discharge regulations.

Bilge suctions in different places of the yacht (5 watertight compartments) is provided through a manifold in stainless steel (50 mm diameter), with a non return foot valve, a strainer, and a water level detection in each compartment.

7-6) HYDRAULIC SYSTEM:

A ring main hydraulic system is installed with large bore supply pipe to remote valve blocks situated close to the consumers.

Main power:

Hydraulic power will be via two gearbox driven load-sensing pumps to supply:
- 1 bow thruster
- 2 windlasses
- 1 crane
- 1 stabilization system
- 1 stern gangway

Back up power:

- With a 220/380 Vac 7kW electro-pump on the hydraulic tank
- With one of the two gearbox driven load-sensing pumps.

Steering gear supply:

Hydraulic power is via an independent electro-hydraulic power unit.

7-7) WORKING AIR SYSTEM:

Working air system is provided by one screw-type air compressor and will be distributed to outlets located:
- 1 engine room
- 1 lazarette.

SECTION 8: ELECTRICAL INSTALLATION

8-1) POWER SUPPLY:

Main supply is done by two alternators 80 kW, 380V/50Hz powered by two generator sets.

In case of an overload on the generator set on duty, the galley equipment and the air conditioning system will be automatically disconnected. The re-connection, after the crew has started the second generator, will be manual.

As change-over from one supply to another or to shore line will create a few seconds black-out, video/audio and sensitive equipment will be plugged to regulated outlets to prevent black-out on these equipment.

A three phases transformer 400V/40kVA will allow the shore power supply of the ship on the following shore power network:
. 400V/50Hz three phases with output 32 kW, 400V/50Hz three phases.

The shore supply is made by a cable length 50m with admissible intensity of 63 A. The connections box is located in a locker at the aft transom of the vessel. Plugs and sockets are of a splash-proof industrial type.

The different 24 Vdc supplies are realized by sealed valve regulated gel type batteries as follows:

- 1 battery set 200 Ah for starting of the port main engine and the port generator set.
- 1 battery set 200 Ah for starting of the starboard main engine and the starboard generator set.
- 1 battery set 600 Ah for priority systems and main engines remote control.
- 1 battery set 200 Ah for navigation electronic equipment.

8-2) ELECTRICAL SWITCHBOARDS:

The main AC switchboard is installed in the engine room and will have a split-bus configuration consisting of two (2) main bus-bars connected through a bus bar circuit breaker.

When connected, both bus bars can be power supplied by:
- Generator set n°1
- Generator set n°2
- Shore supply

With this configuration all risks of wrong operations are eliminated, while keeping all power supply options possible:
- Both bus-bars supplied by the same source.
- Both bus-bars supplied by two different sources.

Switchboards:
- The main switchboards are located in the engine room and the wheelhouse.
- The secondary switchboards are located in close proximity to the consumers.

All wiring will be well protected against chafe and the runs will be neat and logical. Each control panel, sub-panel, and junction box will be clearly numbered for identification when referring to the electrical schematic diagrams. All terminal connectors will also have reference numbers for fault tracing.

Penetrations through the decks and watertight bulkheads are made with:
- packing gland for individual wires.
- collective "through box" made in compound for a group of wires.

SECTION 9: NAVIGATION ELECTRONIC EQUIPMENT

This section is subject to further development, but as a general guideline, the following requirements will be allowed for. Final confirmation of equipment will be made by the Owner before ordering.
All the electronic navigation equipment is delivered with their original documentation and handbooks, and a set of first aid spare parts.
Adequate provision is made for the ventilation of electronic equipment as necessary. Panels adjacent to where electronic equipment is installed will be easily removable to allow access to wiring. Antennas location will be studied so that the propagation/reception is not subject to interference.

Radar:
- 1 Radar FURUNO M1944C/B-B
- TFT screen 15" + keyboard
- Rotating antenna 4 feet 6 kW
- Module ARPA FURUNO 10 targets ARP11

Navigation station:
- 1 Chart plotter (C Map)/Sounder/GPS FURUNO GD 1920CB
- TFT screen 15" + keyboard
- Module depth sounder FURUNO ETRFN 600W bi-frequency
- Active antenna FURUNO GP 320B

VHF:
- 1 VHF FURUNO FM 8800 ASN class A, GMDSS compliant
- 1 VHF FURUNO FM 2721 ASN class D, with unit FM2721
- 2 Handheld VHF SIMRAD AXIS 50, GMDSS compliant

SSB:
- 1 SSB FURUNO FS 1570 power 150W with ASN

Standard C:
- 1 Standard C FELCOM 16
- 1 Printer OKI

Auto Pilot:
- 1 Auto pilot FURUNO NAVPILOT 500 with screen LCD FAP 5001
- 1 Satellite compass FURUNO SC50
- 1 tiller
- 1 rudder indicator

Navtex:
- 1 NAVTEX FURUNO NX700PRO, GMDSS compliant, with active antenna

Wind station:
- 1 FURUNO ROWIND NMEA type wind speed and direction meter

Satellite telephone:
- 1 Satellite telephone TRACPHONE fleet 55
- 1 Computer Pentium type, UPS power supply
- 1 Printer / Fax / Scanner.

SECTION 10: REMOVABLE EQUIPMENT

10-1) NAVIGATION EQUIPMENT:

- 1 magnetic compass CASSENS PLATH type or equal
- 1 azimuth compass SILVA 60NL type or equal
- 1 brass marine clock
- 1 aneroid barometer
- 1 binocular 7x50
- 1 navigation ruler
- 1 divider
- 1 sounding lead with 100 m sounding line
- 1 mouth fog horn
- 1 black spherical signal 300 mm diameter
- 1 bi-cone signal
- 1 chromed brass bell, 150 mm diameter
- 1 signal mirror
- 1 radar reflector
- 1 torch light.

10-2) DOCUMENTS:

All wheelhouse nautical documentation is supplied by the Owner.

10-3) SIGNALS:

- 1 approved flare kit
- 1 national flag 50 x 70 cm
- 1 N & C flags 30 x 40 cm
- 1 set of 40 flags 30 x 40 cm
- 1 set of radio call sign letters (4) 30 x 40 cm
- 1 set of emergency navigation lights
- 1 SARSAT COSPAS emergency beacon
- 1 radar transponder
- 1 fog-horn MARCO type or equal with 24Vdc air compressor and accumulator.

10-4) FIRE EXTINGUISHERS:

- A set of multipurpose ABC powder fire extinguishers and CO2 fire extinguishers in various locations according to regulations.
- 1 fire blanket for the galley
- 1 fireman's suit with breathing apparatus
- A set of fire-fighting appliances to protect the ship from the fire hazards associated with helicopter operations

10-5) SAFETY EQUIPMENT:

- 4 certified life rafts in containers, 8 persons each, with hydrostatic launching lines.
- 13 immersion suits
- 20 certified life jackets (16 adults and 4 children)
- 4 certified life buoys
- 2 lines for life buoy, 27.5 m each
- 2 lights for life buoy, with upside down self lighting
- 1 line throwing apparatus.

10-6) FIRST-AID KIT:

Supplied by the Owner.

10-7) DOCK LINES AND FENDERS:

- 4 polyester dock lines, 40 metres long, 40 mm diameter, with spiced eyes
- 4 polyester dock lines, 30 metres long, 40 mm diameter, with spiced eyes
- 10 balloon type fenders, approximately 0.5 metre diameter, all with lanyards and covers
- 2 boathooks in teak with stainless steel ends

10-8) DINGHIES AND OUTBOARDS:

Supplied by the Owner.

10-9) HOSEPIPES:

- 2 hosepipes, 30 metres long, 25 mm diameter, with GARDENA quick connectors and spray nozzles.

SECTION 11: TRIALS

11-1) GENERAL:

Extensive sea trials will be conducted before handover to ensure that the vessel and all associated items of equipment are commissioned and fully functional. It is only once the commissioning and the sea trials have been completed to the satisfaction of the Owner and Owner's Representative, that the vessel will be accepted by the Owner.

The trials will consist of tests carried out both in the basin and underway. The Builder will agree with the Owner's Representative, before the launch of the vessel, a programme for those tests.

The Builder will arrange for the representatives of all the major items of equipment to be on board during the commissioning, initial testing, and setting up of those items.

The results of these tests will be documented by the Builder, and where appropriate, inserted into the Operator's Manual to provide additional operating information.

The Builder will organise compass swinging and ensure that all equipment on board is fully calibrated where applicable i.e. depth, speed, tank gauges including fuel flow meters.

During the period from launch until handover the Builder will use his own dock lines, fenders, and fender guards, to protect the hull.

All expenses are to the Builder's account (except the Owner’s crew expenses).

11-2) DOCUMENTATION:

On handover of the vessel, the Builder will pass to the Owner the following documents:

- Builder's Certificate
- Classification Certification
- Transfer of Ownership and Declaration by the Builder that the vessel is free from all mortgages, or any other claim.
- Registration Documents
- Radio Licences
- International Tonnage certificate
- Compass Adjustment certificate
- Certificate for every item of safety equipment and machinery installed.

SECTION 12: MISCELLEANOUS

12-1) DESIGN:

Interior designer work fees are borne by the Owner.

Design work fees of JOUBERT/NIVELT office are borne by the builder.
Builder's specific technical study work fees are borne by the builder.

12-2) BUREAU VERITAS:

BUREAU VERITAS fees are borne by the builder.

12-3) INSURANCE:

The yacht is covered at all stages of the built by the builder insurance policy against destruction, fire, or any damage, until the acceptance signing of the vessel by the Owner.

12-4) TOOLING AND DOCUMENTATION:

On delivery, the Builder will supply the Owner with the following tooling and documentation:

- Specific tools for the maintenance of the main and secondary engines
- User's manual, maintenance manual, and spare parts catalogue, for the main equipments
- General arrangement drawing
- Interior arrangement drawings
- Wheelhouse instrumentations and controls drawings
- Hull shapes drawings
- Structure drawings
- Weight calculations
- Intact and damage stability booklet
- Fire-fighting system scheme
- Bilge system scheme
- Electrical supply and distribution scheme
- Hydraulic scheme
- Fuel oil with quick shut-off systems scheme
- Sea water system scheme
- Engines plant drawing
- Deck equipment implementation drawing
- Tanks scheme
- Fans and vents scheme
- Scuppers scheme
- Fuel burn tables

All the documentations and drawings are supplied in English language in two copies.